

REMARKS

Claims 1-40 are currently pending in the subject application and are presently under consideration. Claims 1, 18, 24, 29, 33 and 35-40 have been amended as shown at pages 2-10 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 8-11 Under 35 U.S.C. §112

Claims 8-11 are rejected for failing to particularly point out and distinctly claim the subject matter of the application. Particularly, the Office Action states claim 8 lacks antecedent basis for the language relating to *multi-dimensional software objects*. Claims 9-11 are accordingly rejected for depending from claim 8. This rejection should be withdrawn for at least the following reason. Claim 1 has been amended in a way as to moot rejection of claim 8 grounded in improper antecedent bases.

II. Rejection of Claims 1-40 Under 35 U.S.C. §101

Claims 1-40 stand rejected under 35 U.S.C. §101 for being directed toward non-statutory subject matter. Specifically, the Office Action asserts both the systems and methods of the rejected claims comprise software *per se*. This rejection should be withdrawn for at least the following reason. Rejection of claims 1-40 for want of statutory subject matter is improper in view of the claim amendments herein.

Independent claims 1, 18, 24, 29, 33 and 35-40 recite, at least, functional descriptive material. *See* MPEP § 2106. These claims have been amended to recite at least *computer readable media* or *computer hardware*, which necessarily implicates tangible, physical computer components. When associated with computer hardware such as computer readable media, functional descriptive material is allowable. *Id.* Thus, rejection of claims 1, 18, 24, 29, 33 and 35-40 (and all claims that depend therefrom) should be withdrawn.

III. Rejection of Claims 1-7, 12-23, 33-35 and 37-38 Under 35 U.S.C. §103(a)

Claims 1-7, 12-23, 33-35 and 37-38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wolff *et al.* (U.S. Patent No. 2003/0120714). Withdrawal of the rejection is

requested for at least the following reasons. Independent claims 1, 18, 33, 35, 37 and 38, as amended, recite allowable subject matter.

The subject application relates to services for providing flexible and powerful Human Machine Interfaces (HMIs) for industrial control systems. These HMIs are flexible in that they overcome the limitations of discrete legacy systems which may lack compatibility among one another in part or whole. Services are provided to utilize available hardware and content to auto-generate compatible code. The standard inputs of each system can be employed to render substantially similar HMIs on otherwise disparate platforms. Rendering can reach a level of detail that emulates the physical controls common to a system (*e.g.* dials, gauges, sliders) as well as display system changes as they occur. A further feature provides for what is termed a “view anywhere” service, which includes multi-dimensional objects that allow a facility to be navigated both in terms of a plurality of distinct systems (or even facilities) as well as various hierarchical levels within single systems. This allows a user to view a system or plurality of systems at an optimal resolution for specific purposes. The HMIs rendered in conjunction with these management aspects provide users with appropriate power coincident with the capabilities of both the controls and the systems being controlled. The resultant data can be administered automatically or by the user to provide feedback in an optimal format for the desired purposes.

To this end, amended claim 1 recites, in part: *a processing component that creates one or more multi-dimensional software objects that renders data based at least in part on the properties, limitations, software plug-ins of the device, or any combination thereof*. Independent claims 18, 33, 35 and 37-38 recite akin features such as *determining formatting requirements, properties, limitations, multi-level hierarchical attributes, or software plug-ins associated with a plurality of devices intended for delivery of data (e.g. claim 33) and rendering the data in the HMI into a suitable format utilizing one or more multi-dimensional objects based at least in part on the properties, limitations, or software plug-ins of the physical device (e.g. claims 35 and similarly 38)*. Wolff *et al.* fails to disclose at least these features.

Wolff *et al.* relates to machine vision systems, and more particularly, to human machine interfaces (HMIs) for training, controlling, and monitoring machine vision system sensors and methods for installing and configuring such interfaces. The cited reference discloses receipt of data in a desired portable device compatible format and utilizing an image compression technique to enhance the detail of an image to an appropriate gray or contrast level. There is no

suggestion that Wolff *et al.* employs *multi-dimensional objects* or *multi-level hierarchical attributes* to facilitate control at varying resolutions over a system or enterprise. In view of the foregoing, it is readily apparent that Wolff *et al.* does not disclose or suggest all claimed aspects, and therefore it is respectfully submitted that rejection of independent claims 1, 18, 33, 35 and 37-38 (and those of claims 2-6, 12-17, 19-23 and 34, which depend respectively therefrom) should be withdrawn and the subject claims allowed.

IV. Rejection of Claims 29-32 Under 35 U.S.C. §103(a)

Claims 29-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wolff *et al.* (U.S. Patent No. 2003/0120714) in view of Shteyn (U.S. Patent No. 6,199,136). It is respectfully submitted that the rejection be withdrawn for at least the following reasons. Independent claim 29 has been amended to recite allowable subject matter.

As discussed above, the subject claims relate to novel methods for providing flexible HMIs across potentially incompatible platforms. One feature of this is software which allows a controller to “drill down” on particular systems or functions within an enterprise to facilitate greater control and administration at varying operational levels. Accordingly, amended claim 29 recites, in part, *a Human Machine Interface (HMI) generator that formats data according to a multi-dimensional object structure based at least in part on the properties, limitations, or software plug-ins of the physical devices*. The cited references do not suggest such a feature.

Shteyn adds to Wolff *et al.* home automation systems for controlling audio/video equipment in an entertainment system. Shteyn discloses controlling devices through “abstract representations,” having message sets for each class of device, modeling home devices as OLE Automation objects, and a data-driven interaction controller that renders a GUI interface on an appliances display, where the displays can vary from graphical to text-only. However, these teachings do not remedy the shortcomings of Wolff *et al.* in suggesting any type of *multi-dimensional object structure based at least in part on the properties, limitation, or software plug-ins of the physical devices*. Thus, any proper combination of the cited reference fails to render obvious this and other features of the rejected claims.

In view of the foregoing, it is clear that Shteyn fails to make up for the deficiencies of Wolff *et al.* with respect to independent claim 29 (and claims 30-32 which depend therefrom). Thus, it is respectfully requested that this rejection be withdrawn and the subject claims allowed.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP314US]

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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